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I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003906544 for a patent by SMART INTERNET TECHNOLOGY CRC PTY LTD as filed on 27 November 2003.



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Fourteenth day of December 2004

A handwritten signature in black ink.

LEANNE MYNOTT
MANAGER EXAMINATION SUPPORT
AND SALES

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AUSTRALIA

Patents Act 1990

PROVISIONAL SPECIFICATION

Applicant(s) :

SMART INTERNET TECHNOLOGY CRC PTY LTD

Invention Title:

A SYSTEM AND METHOD FOR COMMUNICATING INFORMATION

The invention is described in the following statement:

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A SYSTEM AND METHOD FOR COMMUNICATING INFORMATION

FIELD OF THE INVENTION

5 The present invention relates generally to a system and method for communicating information. More specifically, the present invention has particular, but by no means exclusive, application to communicating information between mobile telephones.

10

BACKGROUND OF THE INVENTION

Whilst today's mobile telephone networks have undoubtedly enhanced our ability to communicate with each other, there are several aspects of their functionality that could be improved in order to further enhance our ability to efficiently communicate with each other. One aspect that could be improved is the ability for a user of a mobile telephone to readily determine what another mobile telephone user is doing without the two parties having to communicate directly (for instance, speak) with each other. For example, it would be of advantage if the user of the mobile telephone could program the telephone network to provide information to inform parties calling the user's mobile telephone that the user is currently in a lecture - without the two parties having to communicate with each other. At present, the user of the mobile telephone would either have to speak with the parties to inform them that she is in a lecture, or the user of the mobile telephone would have to engage in SMS messaging to tell the parties that she is in a lecture.

Another aspect of mobile telephone networks that could be improved is their ability to allow a person to easily join a group of people and communicate efficiently with them. At present the person has to go through the rather cumbersome task of organising or arranging a time to

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communicate with the group and establishing a conference call between the members of the group.

SUMMARY OF THE INVENTION

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According to a first aspect of the present invention, there is provided a communication system, the system comprising:

10 determining means operable to determine an attribute of a first communication device;

identifying means operable to identify an avatar by using the attribute, wherein the avatar is such that it conveys to a viewer thereof information about a person; and

15 communicating means operable to communicate the avatar to the first communication device.

Thus, by communicating the avatar to the first communication device a user thereof is able to obtain information about the person without the user and the person communicating directly.

20 Preferably, the system further comprises replacing means operable to replace the avatar with another avatar.

25

Thus, this enables different information to be conveyed to the person. For instance, the initial avatar may indicate that the person is in a lecture, whilst the replacement avatar may indicate that the person is out shopping.

30 Preferably, the identifying means is operable to identify the avatar by using the attribute and a communication device identifier that is associated with the avatar.

35 Preferably, the system further comprises

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specifying means arranged to specify the communication device identifier.

Thus, the person has the ability to control who
5 will receive the avatar.

Preferably, the replacing means is further operable to replace the communication device identifier with another communication device identifier.

10

Preferably, the communicating means is operable to communicate the avatar to the first communication device in an environment that represents a virtual room.

15

Preferably, the communicating means comprises a second communication device that is operable to initiate a transfer of the avatar to the first communication device upon being contacted thereby.

20

Preferably, the determining means is operable to determine the attribute by processing data created by the first communication device.

25

Preferably, the system further comprises messaging means operable to create a text, audio or video message that is associated with the avatar.

Preferably, the avatar and the other avatar depict an activity that involves the user.

30

Preferably, the first communication device is a mobile telephone and the attribute comprises a telephone number of the mobile telephone.

35

According to a second aspect of the present invention, there is provided a system for communicating information to a person, the system comprising:

- 5 -

an environment supporting means operable to support at least one environment that can be accessed by a person; and

5 a communicating means operable to communicate an avatar to the person subsequent to the person accessing the environment, the avatar being such that it represents another person that is accessing the environment and is arranged to convey the information to the person upon being communicated thereto.

10

Thus, the ability to provide the environment and communicate the avatar has the advantage of facilitating the formation of spontaneous, multiple, virtual social networks.

15

Preferably, the environment supporting means is operable to determine a level of authority associated with the persons, and provide the persons with access to the environment if the level of authority is deemed appropriate.

20 Thus, the ability to provide access to the environment based on the level of authority has the advantage of facilitating control over who can access the environment.

25 Preferably, the environment supporting means is operable to allow an administrator of the environment to assign the level of authority.

30

The administrator can be the person responsible for establishing the environment, or any other person which the administrator has nominated.

35

Preferably, the environment supporting means is arranged to represent the environment as a virtual room, and is such that it allows the virtual room to be arranged

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such that it has desired properties such as a specific appearance.

5 Thus, the ability to represent the environment as a virtual room and arrange the room as required has the advantage of providing a property such as a required look and feel.

10 Preferably, the environment supporting means is operable to allow the person and the other person to exchange other information via the environment.

15 Preferably, the other information comprises multi-media content.

20 Preferably, the communicating means is further operable to allow the other person to control whether the avatar conveys the information to the person.

25 Thus, controlling whether the avatar conveys the information to the person ensures that the person receives only the information which the other person wants the person to receive.

30 Preferably, the environment supporting means is operable to allow the person to access the environment via a communication network, and the communicating means is operable to communicate the avatar to the person via the communication network.

35 Thus, providing the advantage of allowing the person to access the environment from a remote location, and receive the avatar at the remote location.

Preferably, the information conveyed by the avatar to the person comprises audio and/or video information.

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According to a third aspect of the present invention, there is provided a communication method, the method comprising the steps of:

5 determining an attribute of a first communication device;

identifying an avatar by using the attribute; and
communicating the avatar to the first communication device.

10

Preferably, the method further comprises replacing the avatar with another avatar.

15 Preferably, the identifying step comprises identifying the avatar by using the attribute and a communication device identifier that is associated with the avatar.

20 Preferably, the method further comprises the step of specifying the communication device identifier.

Preferably, the replacing step further comprises replacing the communication device identifier with another communication device identifier.

25

Preferably, the communicating step comprises communicating the avatar from a second communication device to the first communication device upon the first communication device contacting the second communication device.

30

Preferably, the determining step comprises determining the attribute by processing data created by the first communication device.

35

Preferably, the method further comprises the step of creating a text, audio or video message that is

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associated with the avatar.

Preferably, the avatar and the other avatar depict an activity that involves the user.

5

Preferably, the first communication device is a mobile telephone and the attribute the telephone number of the mobile telephone.

10

According to a fourth aspect of the present invention, there is provided a method for communicating information to a person, the method comprising the steps of:

15

supporting at least one environment that can be accessed by a person; and

20

communicating an avatar to the person subsequent to the person accessing the environment, the avatar being such that it represents another person that is accessing the environment and is arranged to convey the information to the person upon being communicated thereto.

25

Preferably, the step of supporting the environment comprises determining a level of authority associated with the persons, and providing the persons with access to the environment if the level of authority is deemed appropriate.

30

Preferably, the step of supporting the environment comprises assigning the level of authority.

35

Preferably, the step of supporting the environment comprises representing the environment as a virtual room, and arranging the virtual room such that it has desired properties such as a specific appearance.

Preferably, the step of supporting the environment comprises exchanging other information between

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the person and the other person via the environment.

Preferably, the other information comprises multi-media content.

5

Preferably, the step of communicating the avatar to the person comprises controlling whether the avatar conveys the information to the person.

10

Preferably, the information conveyed by the avatar to the person comprises audio and/or video information.

15

According to a fifth aspect of the present invention, there is provided software comprising instructions that enable a computing device to carry out the method described in the third or fourth aspect of the present invention.

20

According to a sixth aspect of the present invention, there is provided a computer readable medium comprising the software described in the fifth aspect of the present invention.

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BRIEF DESCRIPTION OF THE DRAWINGS

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Notwithstanding any other embodiments that may fall within the scope of the present invention, an embodiment of the present invention will now be described, by way of example only, with reference to the accompanying figures, in which:

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Figure 1 provides a schematic diagram of a mobile telephone system which embodies the present invention; and

Figure 2 provides an image of a virtual lounge room that is presented to a user of the system shown in

- 10 -

figure 1.

AN EMBODIMENT OF THE INVENTION

5 With reference to figure 1, a mobile telephone system 1 embodying the present invention comprises numerous base stations 3 spread out over an area of land. Each of the base stations 3 provide network service to a unique region 5 of the area, also commonly referred to as cells.
10 The base stations 3 are under the control of a supervising computer system (not shown) so that the base stations operate in a coordinated manner.

The mobile telephone system 1 also comprises
15 numerous mobile telephone handsets 7. As the mobile telephone handsets move across the area they move in and out of the regions 5. The mobile telephone handsets 7 are arranged to communicate with the base station 5 that provides network service to the region of the area that the
20 mobile telephone handset 7 is located. For example, if the mobile telephone handset 7a were located in region 5d then it would communicate with base station 3d.

Each of the mobile telephone handsets 7 comprise
25 determining means, identifying means and communicating means, all of which are in the form of software that is run on the hardware of the mobile telephone handsets 7. Essentially, the determining means enables the telephone handsets to determine an attribute of a telephone that is attempting to call the telephone handsets 7. In the case of the present embodiment, the attribute is the telephone number of the telephone that is attempting to call the telephone handsets 7. The determining means determines the attribute (telephone number) by processing caller
30 identification data, which is transmitted to the telephone handsets 7 from the base stations 3.
35

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Once the determining means has determined the attribute, the identifying means uses the attribute to identify an avatar. The word "avatar" as used throughout this specification is a reference to an image of some description which when viewed conveys some information about an activity that a person (that is, an owner of the mobile telephone handsets 7) is engaged in. For instance, an avatar of a surfboard or book would indicate that the person is out surfing or reading respectively. An avatar might, for example, be in the form of a digital photograph or alternatively an animated icon.

In using the attribute to identify the avatar, the identifying means basically searches through a 'library' of avatars each of which is associated with a communication device identifier, which is effectively a telephone number. When searching through the library of avatars, the identifying means checks the communication device identifiers until it finds one that matches the attribute. On finding a matching communication device identifier, the identifying means identifies the avatar that is associated with the matching communication device identifier.

Subsequent to identifying the avatar, the communication means communicates (transmits) the identified avatar to the telephone that that called the mobile telephone handsets 7. The mobile telephone handsets 7 transmit the identified avatar to the relevant base station 3, which inturn forwards the avatar on to the calling telephone via the telephone network. When the telephone that called the mobile telephone 7 receives the avatar sent by the communication means, it presents the avatar on a visual display so that the user of the telephone can view the avatar and determine what the user of the called handset is doing.

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Given that users of the mobile telephone handsets 7 are likely to want to convey different information, the present embodiment of the invention comprises selecting means which enables the users to select the avatar from a plurality of different avatars, which are stored in the memory of the mobile telephone handsets 7. For instance, the different avatar could include a picture of a surfboard, a picture of a book, and a picture of an office. In this case, the selecting means would enable the users of the mobile telephone handsets to select the picture of the office if the user wanted to indicate (to parties calling her mobile telephone handset 7a) that she was currently at work. The selecting means is in the form of software, which is capable of retrieving the different avatars from the memory of the mobile telephones 7, presenting the retrieved avatars on the visual display of the mobile telephone handsets 7. Furthermore, the software of the selecting means would enable the users of the mobile telephone handsets 7 to browse through the avatars and select the required one thereof via the keypad of the mobile telephone handsets 7.

The present embodiment of the invention also comprises specifying means, which is also in the form of software that runs on the hardware of the mobile telephone handsets 7. The specifying means enables the users of the mobile telephones 7 to specify the communication device identify (that is, telephone number) that is associated with the avatar. As described previously, the identifying means uses the communication device identifier when attempting to identify the avatar. The selecting means is arranged such that the users of the mobile telephone handsets 7 can specify (enter) the communication device identifier by using the keypad of the mobile telephone handsets 7.

The embodiment of the present invention further

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comprises an environment supporting means which is in the form of software running on the telephone handsets 7. The environment supporting means is operable to support one or more environments that can be accessed by users of the 5 telephone handsets 7. The environment supporting means is arranged to support the environments by allow users of the telephones 7 to create, maintain and delete the environments as required. It is noted that the environments can exist even though no users are accessing the 10 environments.

The environment supporting means is such that the environments represent different virtual lounge rooms that can be visited by the users of the telephones 7. An example 15 of one possible virtual lounge room is shown in figure 2. When a person visits a virtual lounge room they are effectively accessing an environment supported by the environment supporting means. As part of maintaining the virtual lounge rooms, the environment supporting means 20 allows users of the telephone handsets 7 to arrange to virtual lounge rooms such that they have a desired appearance. Effectively, this means that users of the telephone handsets 7 can, for example, hang a range of pictures on the walls of the virtual room, or arrange the 25 furniture in the virtual room. This allows users of the telephone handsets 7 to personalise the virtual rooms.

In order to gain access to the environments (visit the virtual lounge rooms), a user of one of the 30 telephone handsets 7 effectively logs onto one of the telephone handsets 7 via the base stations 3. Basically, this involves calling the telephone handset 7 which is maintaining (via the environment supporting means) the environments. Assuming that the log on process is 35 successful, the environment supporting means will provide the user which has logged onto the telephone handset 7 with a list of environments that are currently active on the

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telephone handset 7 that has been logged onto. By using the user interface of their telephone handset 7, the user that has logged onto one of the telephone handsets 7 selects one or more of the currently active environments. Subsequent to 5 selecting the one or more active environments, the environment supporting means operating on the telephone handset 7 that has been logged onto determines whether the user wishing to access the one or more environments has been assigned an appropriate level of authority to access 10 the active environments. The environment supporting means is such that it provides a user with access to those selected environments which the user has the appropriate level of authority to access.

15 The environment supporting means is such that it allows an administrator of the environments (which is typically the person that created the environment) to set the level of authority required to access the environments, and assign a level of authority to users of the telephone 20 handsets 7. This allows the administrator to control access the environments.

Once a user is provided with access to one or more of the selected environments, they will be presented 25 with one or more avatars each of which represents another user who currently accessing the same environment. The avatars are presented in the virtual rooms (environments). The communicating means (referred to previous in the present description of the embodiment of the invention) is further arranged to communicate the one or more avatars to 30 the user. It is noted that when the user is provided access to the one or more of the selected environments the communicating means will provide the other users who are currently accessing the same environment with an avatar 35 which represents the user which has just been provided with access to the environment.

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The avatars communicated by the communicating means are arranged to convey information, in the form of audio information, to the users of the telephone handsets 7 subsequent to being communicated to the users, which is 5 typically via the visual display of the telephone handsets 7 being used by the users.

In addition to conveying information using the avatars, the present embodiment of the invention allows 10 users who have been provided with access to the environments to use the environments to facilitate the exchange other information, in the form of multi-media information, with each other.

15 The present embodiment of the invention also provides controlling means which is operable to allow a person which an avatar represents to control who can receive the information which the avatar conveys. The controlling means is in the form of software that runs on 20 the hardware of the telephone handsets 7. Effectively, the controlling means enables users who have been given access to the environments to establish private communications with each other. If control is not exerted over who the 25 avatar conveys the information to, the avatars will convey the information to all users that are accessing the environment. Thus, the controlling means provides a mechanism for users to exchange information privately.

Those skilled in the art will appreciate that the 30 invention described herein is susceptible to variations and modifications other than those specifically described. It should be understood that the invention includes all such variations and modifications which fall within the spirit and scope of the invention.

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The invention to be claimed will be any one of the arrangements described herein and may include, but not limited to, the following arrangements:

- 5 1. A communication system comprising:
 determining means operable to determine an attribute of a first communication device;
 identifying means operable to identify an avatar by using the attribute, wherein the avatar is such that it
10 conveys to a viewer thereof information about a person; and
 communicating means operable to communicate the avatar to the first communication device.

- 15 2. The system as claimed in claim 1, wherein the identifying means is operable to identify the avatar by using the attribute and a communication device identifier that is associated with the avatar.

- 20 3. The system as claimed in claim 2, further comprising specifying means operable to allow the communication device identifier to be specified.

- 25 4. The system as claimed in claim 2, further comprising selecting means operable to allow the avatar to be selected from a plurality of other avatars.

- 30 5. The system as claimed in claim 4, wherein the selecting means is further operable to allow the communication device identifier to be selected from a plurality of other communication device identifiers.

- 35 6. The system as claimed in any one of the preceding claims, wherein the communicating means is operable to communicate the avatar to the first communication device in an environment that represents a virtual room.

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7. The system as claimed in any one of the preceding claims, wherein the communicating means comprises a second communication device that is operable to initiate a transfer of the avatar to the first communication device
5 upon being contacted thereby.

8. The system as claimed in any one of the preceding claims, wherein the determining means is operable to determine the attribute by processing data created by
10 the first communication device.

9. The system as claimed in any one of the preceding claims, further comprises messaging means operable to create a text, audio or video message that is
15 associated with the avatar.

10. The system as claimed in any one of the preceding claims, wherein the avatar and the other avatar depict an activity that involves the user.
20

11. The system as claimed in any one of the preceding claims, wherein the first communication device is a mobile telephone and the attribute comprises a telephone number of the mobile telephone.
25

12. A system for communicating information to a person, the system comprising:

an environment supporting means operable to support at least one environment that can be accessed by a
30 person; and

a communicating means operable to communicate an avatar to the person subsequent to the person accessing the environment, the avatar being such that it represents another person that is accessing the environment and is
35 arranged to convey the information to the person upon being communicated thereto.

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13. The system as claimed in claim 12, wherein
the environment supporting means is operable to determine a
level of authority associated with the persons, and provide
the persons with access to the environment if the level of
5 authority is deemed appropriate.

14. The system as claimed in claim 13, wherein
the environment supporting means is operable to allow an
administrator of the environment to assign the level of
10 authority.

15. The system as claimed in any one of claims
12 to 14, wherein the environment supporting means is
arranged to represent the environment as a virtual room,
15 and is such that it allows the virtual room to be arranged
such that it has desired properties such as a specific
appearance.

16. The system as claimed in any one of claims
20 12 to 15, wherein the environment supporting means is
operable to allow the person and the other person to
exchange other information via the environment.

17. The system as claimed in claim 16, wherein
25 the other information comprises multi-media content.

18. The system as claimed in any one of claims
12 to 17, wherein the communicating means is further
operable to allow the other person to control whether the
30 avatar conveys the information to the person.

19. The system as claimed in any one of claims
12 to 18, wherein the environment supporting means is
operable to allow the person to access the environment via
35 a communication network, and the communicating means is
operable to communicate the avatar to the person via the
communication network.

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20. The system as claimed in any one of claims
12 to 19, wherein the information conveyed by the avatar to
the person comprises audio and/or video information.

5

21. A communication method comprising the steps
of:

determining an attribute of a first communication
device,

10

identifying an avatar by using the attribute; and
communicating the avatar to the first
communication device.

15

22. The method as claimed in claim 21, wherein
the identifying step comprises identifying the avatar by
using the attribute and a communication device identifier
that is associated with the avatar.

20

23. The method as claimed in claim 22, further
comprising the step of specifying the communication device
identifier.

25

24. The method as claimed in claim 23, further
comprising the step of selecting the avatar from a
plurality of other avatars.

30

25. The method as claimed in any one of claims
22 to 24, further comprising the step of selecting the
communication device identifier from a plurality of other
communication device identifiers.

35

26. The method as claimed in any one of claims
21 to 25, wherein the step of communicating the avatar
comprises communicating the avatar to the first
communication device in an environment that represents a
virtual environment.

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27. The method as claimed in any one of claims
21 to 26, wherein the communicating step comprises
communicating the avatar from a second communication device
to the first communication device upon the first
5 communication device contacting the second communication
device.

28. The method as claimed in any one of claims
21 to 27, wherein the determining step comprises
10 determining the attribute by processing data created by the
first communication device.

29. The method as claimed in any one of claims
21 to 28, wherein the method further comprises the step of
15 creating a text, audio or video message that is associated
with the avatar.

30. The method as claimed in any one of claims
21 to 29, wherein the avatar and the plurality of other
20 avatars depict an activity that involves the user.

31. The method as claimed in any one of claims
21 to 30, wherein the first communication device is a
mobile telephone and the attribute represents a telephone
25 number of the mobile telephone.

32. A method for communicating information to a
person, the method comprising the steps of:
supporting at least one environment that can be
30 accessed by a person; and
communicating an avatar to the person subsequent
to the person accessing the environment, the avatar being
such that it represents another person that is accessing
the environment and is arranged to convey the information
35 to the person upon being communicated thereto.

33. The method as claimed in claim 32, wherein

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the step of supporting the environment comprises determining a level of authority associated with the persons, and providing the persons with access to the environment if the level of authority is deemed appropriate.

34. The method as claimed in claim 32 or 33, wherein the step of supporting the environment comprises assigning the level of authority.

10

35. The method as claimed in any one of claims 32 to 34, wherein the step of supporting the environment comprises representing the environment as a virtual room, and arranging the virtual room such that it has desired properties such as a specific appearance.

20 36. The method as claimed in any one of claims 32 to 35, wherein the step of supporting the environment comprises exchanging other information between the person and the other person via the environment.

25 37. The method as claimed in any one of claims 32 to 36, wherein the other information comprises multi-media content.

30

38. The method as claimed in any one of claims 32 to 37, wherein the step of communicating the avatar to the person comprises controlling whether the avatar conveys the information to the person.

35

39. The method as claimed in any one of claims 32 to 38, wherein the information conveyed by the avatar to the person comprises audio and/or video information.

40.

Software comprising instructions that allow a computing device to carry out the method as claimed in any one of claims 21 to 39.

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41. A computer readable medium comprising the software as claimed in claim 40.

5 42. A communication system substantially as herein described with reference to the accompanying figure.

43. A communication method substantially as herein described with reference to the accompanying figure.

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